

JANUARY 13.

Dr. GEO. H. HORN in the chair.

Twenty-three persons present.

Papers under the following titles were presented for publication:—

On the "Genus *Psilorhinus* Rüppell." By Witmer Stone."Description of a specimen of *Chirolophus polyactocephalus* from Vancouver Island." By Ashdown H. Green.

"Geological Researches in Yucatan." By Prof. Angelo Heilprin.

JANUARY 20.

Dr. CHARLES SCHAEFFER in the chair.

Thirty persons present.

A paper entitled "A Review of the Cretaceous Mammalia" by Henry F. Osborn was presented for publication.

An hypothesis as to the Nature and Origin of Germ Force.—Dr. J. CHESTON MORRIS referred to a communication published by him in the Proceedings of the Academy about thirty years ago in which he called attention to the mode of splitting of egg-albumen in diluted solution kept at a warm temperature, giving rise to a body like creatin and a ferment possessing properties allied to pepsin. Accident, unfortunately, and press of other work, prevented the completion of the quantitative analysis. But now, in connection with the views recently propounded by Dr. McLaughlin (Texas State Med. Soc. Trans. 1890) as to the explanation of the phenomena of immunity from, and prevention of, contagious and infectious diseases by the law of interference, these views might be again referred to, as illustrations of the splitting of organic molecules and their results.

Physical forces are now generally regarded as vibrations or undulations produced in matter, but to regard vital force as also vibratory is a great step in advance. Its effects are evolution of form, growth, secretion, excretion, reproduction, maintenance of form with change of material; its conditions, the presence of liquid plasma, heat, light, oxygen, and a germ, itself the result of union of a germ-cell with a sperm cell. Without all these, we have no life-phenomena with them they always ensue. Matter in becoming part of a living body continues to possess all the vibrations which give its special character; the plasma, be it earth or organic matter, retains its chemical properties, but these are modified by other vibrations

resulting from this special force. If the law of *interference* explains many of the phenomena of infectious and contagious diseases, and also the action of many drugs (as for instance that of opium inhibiting or modifying nerve-vibration), no less does that of *transference* explain the origin of the germ. If a cord be stretched between two pillars, and a weight suspended half-way between, and then two other weights similarly suspended half-way between it and the pillars, so that motions at right angles may be given to them—*e. g.* north to south to one, east to west to the other—the central weight will gradually begin to swing and evolve certain figures and curves due to the impulses transferred from the two outer weights. So the union of the contents of the germ-cell and sperm-cell results in the formation of a germ which evolves a form like that of its parents, following their evolution, transmitting in turn its form to its successors, or transmuting it into other forms of motion. Thus all the phenomena of life may be explained on the vibratory hypothesis. Nay, death itself is but the transmutation into other forms of the form so evolved, and becomes as necessary a part of the whole series of evolutions as birth.

The permanence of cicatrices is thus explained. Also the apparent intelligence with which, from a common plasma, different plants evolve different principles (according to their special vibrations), or different organs take their special nutriment from one common blood, and, as the nerves for instance, give rise to special vibrations consonant with their special functions.

In fact we enter thus upon an entirely new field in biology, physiology, pathology and therapeutics. Already the results obtained in the study of variola, syphilis, anthrax, rabies, cholera, and as alleged lately in tuberculosis, may be seen to arrange themselves in accordance with the principles thus enunciated, as foreshadowed by Dr. McLaughlin, and by Dr. Dixon in his communication to this Academy.

In reply to a question with regard to suspended animation, convulsions, etc., Dr. Morris said that he thought these phenomena were fully in accordance with the vibratory hypothesis and that the latter also offered the only plausible explanation suggested as yet of the well-known periodicity of life phenomena both in health and disease.

JANUARY 27.

Dr. GEO. H. HORN in the chair.

Thirty-two persons present.

The death on the 22nd inst. of Charles Lennig, a member, was announced.